



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,702	02/17/2006	Kezhi Qiao	848600002US	4755
30596 7590 08/28/2008 HARNESS, DICKEY & PIERCE, P.L.C. P.O.BOX 8910 RESTON, VA 20195			EXAMINER BERHANE, YOSIEF H	
			ART UNIT 4144	PAPER NUMBER
			MAIL DATE 08/28/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,702	Applicant(s) QIAO ET AL.	
	Examiner YOSIEF BERHANE	Art Unit 4144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/03/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

Application/Control Number: 10568702

Art Unit: 4144

DETAILED ACTION

1. Claims 1-36 have been examined and are pending.

Information Disclosure Statement

2. An initialed and dated copy of Applicant's IDS form 1449 submitted 3/10/2006, is attached to the instant Office action.

Specification

The disclosure is objected to because of the following informalities: spelling errors. One such example is the misspelling of the word “signalling”. Applicant uses the incorrect spelling “signaling” through out the application. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per Claim 1, applicant claims for a MGCP/MEGACO signaling that is related to media, processing a **media identifier** correspondingly by the agent equipment and then

forwarding. The applicant was vague as to the meaning of the term 'media identifier'. The examiner understands the term 'media identifier' to mean 'transaction identifier'.

Furthermore, still pertaining to Claim 1, applicant claims providing an agent equipment between media gateways and a media gateway controller **that locate in different networks**. It is not clear as to which network device (NAT, Media Gateway or Media Gateway Controller) "locate" in different networks.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claim 1-5 provisionally rejected on the ground of nonstatutory double patenting over claim 1-7 of copending Application No. 10/567136, and in further view of Publication NO 20030093563 to Young et al (Hereinafter referred to as Young). This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

As per claim 1, the Copending Application teaches a method for realizing signaling agent based on (Claim 1, Copending Application claims a method for realizing signaling agent)

a media gateway control protocol, comprising the following steps of (Claim 1, Copending Application claims a MEGACO protocol is adopted.)

providing an agent equipment between media gateways and a media gateway controller that locate in different networks (Claim 1, lines 1-4, Copending Application claims “at least one agent equipment on a boundary of different networks where a MEGACO protocol is adopted between the media gateways and the media gateway controller”)

the agent equipment providing signaling agent and network address translation between different networks (Claim 1, Copending Application claims “and at least one agent equipment on a boundary of different networks where a MEGACO protocol is adopted between the media gateways and the media gateway controller, wherein the agent equipment has at least two network addresses: one being a first network address in a network of the media gateway controller and the other one being a second network address in a network of a media gateway side”. Note that this claim is inherently referencing a means for signaling by disclosing an ‘agent equipment’ that has a Media Gateway Controller and a Media Gateway. It is well known in the art that a Media Gateway Controller uses signaling to configure /control Media Gateways. In addition, by disclosing that the 'Media Gateway Controller' and the 'Media Gateway' are located in different networks, it is well known in the art that a ‘network address translation’ is necessary in order to translate the addressing scheme of one network to an appropriate addressing scheme of another network.);

requesting for registering to the media gateway controller from a media gateway (Claim 1, lines 8-10, Copending Application claims “a media gateway requesting be registered to the media gateway controller”)

for a MGCP/MEGACO signaling that is not related to media between the media gateway controller and the media gateway (Claim 1, Copending Application claims “for a MEGACO signaling that is unrelated to media stream ports of the media gateway”).)

The copending application is silent on the claim limitation directly replacing a transaction number by the agent equipment and then forwarding

However a secondary reference by Young, in paragraph 65 and paragraph 69, discloses how a ‘Multimedia Access Network Device’ replaces the transaction id of data packets. Note

that the 'Media Access Network Device' comprises a NAT, a media gateway as well as a media gateway controller and is able to perform the tasks of the said agent equipment.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of the copending application by directly replacing a transaction number and then forwarding. This modification would benefit system of the copending application by providing another means of keeping track of and monitoring command and response messages to and from endpoints, which aids in reliable signaling.

for a MGCP/MEGACO signaling that is related to media, processing a media identifier correspondingly by the agent equipment and then forwarding (In claim 1, lines 14-16, the copending application claims "for a MEGACO signaling that is related to the media gateway, the agent equipment processing media stream attributes correspondingly, and then forwarding the signaling according to the message identifier in the signaling.")

As per claim 2, the copending application teaches the method for realizing signaling agent based on a media gateway control protocol of claim 1, wherein each of all media gateways under control of same media gateway controller has different domain name (In claim 2, the copending application claims "The method for realizing signaling agent of claim 1, wherein each media gateway under a same media gateway controller has a unique MEGACO signaling message identifier". Note, the copending application discloses that the message identifier comprises domain names, IP addresses or equipment name.)

each endpoint identifier includes domain name information of a media gateway, and the media gateway controller distinguishes media gateways according to their domain names in the endpoint identifiers (In claim 2, the copending application states "the media gateway controller distinguishes different media gateways by the message identifier". Note, the copending

application discloses that the message identifier comprises domain names, IP addresses or equipment name.)

As per claim 3, the copending application teaches the method for realizing signaling agent based on a media gateway control protocol of claim 1, wherein the step of requesting for registering to the media gateway controller from a media gateway further comprises (In claim 5, the copending application states “The method for realizing signaling agent of claim 1, wherein the registering procedure of step 1 comprises the steps of: the media gateway sending the register message to the media gateway controller”)

sending a request message for registering to the media gateway controller from the media gateway (In claim 5, the copending application claims “the media gateway sending the register message to the media gateway controller”)

and recording message identifier of the media gateway received by the agent equipment to generate a piece of information about the media gateway (In claim 5, the copending application claims “the agent equipment receiving the message on the second network address and corresponding port, recording an IP source address, port number and message identifier of the media gateway sending the message, and generating a piece of information of the media gateway”)

The copending application is silent on the limitation, assigning by the agent equipment a new transaction number to the request message for registering to replace original transaction number in the request message for registering

However a secondary reference by Young, in paragraph 65, discloses the steps that succeed the request for registration. In the succeeding step, after requesting for registration and recording endpoint identifiers, the call agent assigns a new transaction ID to the request message.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of the copending application by assigning a new transaction ID to the request message by the call agent, after requesting for registration. This modification would benefit system of the copending application by providing another means of keeping track of and monitoring command and response messages to and from endpoints, which aids in reliable signaling.

recording the media gateway sending the request (In claim 1, “the agent equipment dynamically recording message identifier of the media gateway to be registered”),

and then forwarding the request message for registering to the media gateway controller (In claim 1, the copending application claims “the agent equipment has at least two network addresses: one being a first network address in a network of the media gateway controller and the other one being a second network address in a network of a media gateway side, the method comprising the steps of a media gateway requesting be registered to the media gateway controller”. Note that, all though the copending claim did not say “forward the request message for registering to the media gateway controller”, it is inherent that the message must be forwarded to the Media Gateway Controller since they are located in different networks.)

registering the media gateway successfully, and then sending a response message for registering to the media gateway from the media gateway controller (In claim 5, the copending application claims “after registering successfully, the media gateway controller returning a reply signaling to the media gateway”)

the copending application is silent on the claim determining the media gateway by the agent equipment according to the new transaction number in the response message for

registering, replacing the new transaction number with the original transaction number, and then forwarding the response message for registering to corresponding media gateway

However, a secondary reference, Young discloses in Paragraph 75 that the 'Multimedia Access Network Device' is able to support MGCP signaling. The Media Gateway Control Protocol (RFC2705 'Media Gateway Control Protocol Version 1.0' published October of 1999) specifies (pages 57-70) that "MGCP uses a transaction identifier to correlate commands and responses. A gateway supports two separate transaction identifier: a transaction identifier name space for sending transactions, and a transaction identifier name space for receiving transactions. At a minimum, transaction identifiers for commands sent to a given gateway MUST be unique for the maximum lifetime of the transactions within the collection of Call Agents that control that gateway." Note that since the transaction identifiers for MGCP signaling are unique for a given gateway, thus all gateways may be appropriately identified according to the transaction number assigned. Moreover, all gateways support a command and response transaction identifier that are assigned for requesting and responding to appropriate endpoints

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention,, to modify the system of the copending application by finding corresponding gateways according to transaction numbers, replacing the new transaction number with the original transaction number and forwarding the response message to the corresponding media gateway. This modification would benefit the system of the copending application by providing a means for reliable signaling in command and response messages.

As per claim 4, the copending application is silent on the claim limitation the method for realizing signaling agent based on a media gateway control protocol of claim 1, wherein the step of replacing a transaction number by the agent equipment further comprises,

However, a secondary reference by Young (paragraph 69) discloses how a 'Media Access Network Device' assigns a new transaction Id for incoming request messages. Note that the 'Media Access Network Device' comprises a NAT, a media gateway as well as a media gateway controller and is able to perform the tasks of a signaling agent):

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of the copending application by assigning a new transaction Id for incoming request messages. This modification would benefit system of the copending application by providing another means of keeping track of and monitoring command/response messages to and from endpoints, which aids in reliable signaling.

The copending application is silent on the claim limitation for each of request messages sent from the media gateway to the media gateway controller, assigning a new transaction number for a request message by the agent equipment, and recording the media gateway sending the request message

However, a secondary reference by Young, (Paragraph 71 and 72) disclose how the gateway controller keeps a track of all transaction id's assigned by the controller as well as a record of all the default gateways sending requests. In paragraph 69, Young discloses how the 'Media Access Network Device' assigns a new transaction Id for incoming request messages.);

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of the copending application by assigning a new transaction Id for incoming request messages and recording the media gateway sending the request message. This modification would benefit system of the copending application by providing another means of keeping track of and monitoring command/response messages to and from endpoints, which aids in reliable signaling.

The copending application is silent on the claim for each of request messages sent from the media gateway controller to a media gateway, sending the request message to corresponding media gateway by the agent equipment according to domain name in endpoint identifier

However, a secondary reference, Young, discloses in Paragraph 13 of Publication 20030093563, that a 'Multimedia Access Network Device' "can be configured to act as an IP router, a NAT/Masquerading server, ALG, a DHCP (Dynamic Host Configuration Protocol) server, and a firewall. The MAND can provide all of these services in a single device with a simplified common management interface". Further more, in Paragraph 96, Young discloses that The MAND can act as a DHCP (Dynamic Host Configuration Protocol) server, where the user can configure blocks of IP addresses, default gateway, DNS (Domain Name Server) servers and other parameters that can be served to requesting devices.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of the copending application by (using endpoint identifier and domain name in order to send corresponding request message to appropriate endpoint). This modification would benefit system of the copending application by providing a means for properly traversing signaling messages to the correct endpoint devices.

The copending application is silent on the claim after receiving on the agent equipment a response message for the request message sent by the media gateway controller

However, a secondary reference, Young discloses in Paragraph 75 , that the 'Multimedia Access Network Device' is able to support MGCP signaling. MGCP signaling comprises several commands for monitoring communication, one of which is NTFY which is used to generate responses to request messages. Note that it is well known in the art that NTFY response messages use the source address in the header of the original request message as a means to

identify the endpoint device to which the response will be sent to. Also in Paragraph 64, Young discloses where the 'Multimedia Access Network Device' keeps a database map of Endpoint ID of the media gateways that registers with the 'Multimedia Access Network Device'.)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of the copending application by delivering a response message for the request message by the media gateway controller. This modification would benefit the system of the copending application by providing a means of verifying the success of events such as registering to specific network devices (e.g. Media Gateway Controllers, DHCP servers, etc.)

The copending application is silent on the claim finding a corresponding media gateway according to a new transaction number assigned, replacing the new transaction number in the response message with original transaction number, and then forwarding the response message to the corresponding media gateway;

However, a secondary reference, Young discloses in Paragraph 75 that the 'Multimedia Access Network Device' is able to support MGCP signaling. The Media Gateway Control Protocol (RFC2705 'Media Gateway Control Protocol Version 1.0' published October of 1999) specifies (pages 57-70) that "MGCP uses a transaction identifier to correlate commands and responses. A gateway supports two separate transaction identifier: a transaction identifier name space for sending transactions, and a transaction identifier name space for receiving transactions. At a minimum, transaction identifiers for commands sent to a given gateway MUST be unique for the maximum lifetime of the transactions within the collection of Call Agents that control that gateway." Note that since the transaction identifiers for MGCP signaling are unique for a given gateway, thus all gateways may be appropriately identified according to the transaction

number assigned. Moreover, all gateways support a command and response transaction identifier that are assigned for requesting and responding to appropriate endpoints

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of the copending application by finding corresponding gateways according to transaction numbers, replacing the new transaction number with the original transaction number and forwarding the response message to the corresponding media gateway. This modification would benefit the system of the copending application by providing a means for reliable signaling in command and response messages.

As per claim 5, the copending application teaches the method for realizing signaling agent based on a media gateway control protocol of claim 1, wherein the step of processing a MGCP/MEGACO signaling that is related to media by the agent equipment further comprises (In claim 1, the copending application claims “for a MEGACO signaling that is related to the media gateway, the agent equipment processing media stream attributes correspondingly”):

creating or modifying a corresponding media forwarding port and a forwarding table on the agent equipment after receiving a signaling for establishing or modifying a connection sent to a media gateway from the media gateway controller (In claim 6, the copending application claims “the agent equipment receiving the MEGACO signaling for establishing or modifying media stream port sent to the media gateway from the media gateway controller, establishing or modifying corresponding media stream forwarding port and forwarding table on the agent equipment”),

replacing relevant information on media in the signaling with information on corresponding network address of the media forwarding port on the agent equipment, and then forwarding the signaling to the media gateway (In claim 6, the copending application claims

“replacing relevant media information in the MEGACO signaling with corresponding network address information of media stream forwarding port on the agent equipment, and forwarding the signaling to corresponding media gateway”);

if the signaling is a signaling for creating a connection, further recording on the agent equipment an endpoint identifier of the connection (),

modifying the forwarding table of a corresponding media forwarding port on the agent equipment according to a response signaling when the media gateway sends the media gateway controller the response signaling related to media (In claim 6, the copending application claims “the agent equipment modifying forwarding table of corresponding media stream forwarding port according to the reply signaling received”);

replacing media information in the response signaling with information on network address of corresponding media port on the agent equipment, and then sending to the media gateway controller (In claim 6, the copending application claims “replacing media information in the signaling with corresponding network address information of media stream forwarding port on the agent equipment, and forwarding to the media gateway controller”);

sending a signaling for releasing the connection to the media gateway from the media gateway controller after calling finishes (In claim 6, the copending application claims “the media gateway controller sending a subtract signaling for releasing media stream port to the media gateway after calling finishes”),

releasing the corresponding media forwarding port on the agent equipment according to the endpoint identifier, and then forwarding the signaling to the media gateway (In claim 6, the copending application claims “the agent equipment releasing corresponding media stream

forwarding port after receiving the signaling, and forwarding the signaling to corresponding media gateway.”).

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent 7224696 to Bouleros et al. (Referred to as just Bouleros hereafter), filed on Jun. 10, 2002 and

further in view of Publication 2003/0093563 to Young et al (Referred to as Young hereafter) as well as Non-patent Literature “RFC2705, Media Gateway Control Protocol Version 1.0” published October of 1999 by the Network Working Group.

As per claim 1, Bouleros teaches a method for realizing signaling agent based on a media gateway control protocol, comprising the following steps of (col. 12, lines 55-62, “the media gateways use various signaling protocols such as H.248 or MGCP. The media gateway multiplexer is thus advantageously arranged to support a plurality of different signaling protocols in order to accommodate different types of media gateway.”):

providing an agent equipment (figure 1, box labeled “NAT1”) between media gateways (figure 1, box labeled “MG1” AND “MG2”) and a media gateway controller (figure 1, box labeled “MGC1”) that locate in different networks (figure 1, 4 different networks labeled “Network1, Network2, Common Network, and Telco Network”), the agent equipment providing signaling agent (fig 1, MGC1, box 10, NAT1, request sent to control node MGC1 which uses control signalling messages to set up cal path) and network address translation between different networks (figure 1, box labeled NAT, performs network address translation and is able to recognize traversing MGCP signaling. Also note, in Fig 1, the media gateways are located in four separate networks, and that the network address translation is conducted by the NAT for the signaling traversing between the media gateways between the separate networks.);

requesting for registering to the media gateway controller from a media gateway (col. 9, lines 9-17, “As in FIGS. 7 a registration phase 96 occurs in order to register new media gateways at the control node. The media gateway 25 sends a registration message 90 to the media gateway multiplexer which forwards that to the address translation node 21 and from there to the control node.”. Note that the control node is referring to the ‘MGC1, the Media gateway controller.)

for a MGCP/MEGACO signaling that is not related to media between the media gateway controller and the media gateway (**Note, the examiner understands ‘not related to media’ between ‘media gateway controller and the media gateway’ to mean data packets that are not real-time media streams or VoIP packets**), Bouleros discloses a media gateway that uses various signaling protocols such as MGCP, which inherently is capable of handling signaling that is not related to media. For instance, MGCP signaling comprises several commands for monitoring communication, one of which is DLCX which is used to terminate a connection of a specified endpoint. A DLCX command is not related to media, that is, it is not a real-time data packet.

Bouleros is silent on directly replacing a transaction number by the agent equipment and then forwarding

However, Young, in paragraph 67-69, discloses the steps of steering all incoming packets (including media and non – media) and assigning a new transaction id. The step is carried out by the "Multimedia Access Network Device" which comprises a NAT for address translation as well as a gateway and a gateway controller.)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of Bouleros by steering all incoming packets (including media and non-media) and assigning a new transaction id. This modification would benefit the system of Bouleros by providing another means of establishing endpoint identifiers which aids in reliable signaling.

for a MGCP/MEGACO signaling that is related to media, (**The examiner understands ‘related to media’ between ‘media gateway controller and the media gateway’ to mean real-time media or VoIP packets**), In col. 2, lines 39-45, Bouleros discloses “the private

communications network is an enterprise network comprising many media gateways. The enterprise receives services such as voice over internet protocol services from a service provider who has another private network containing a control node and other entities.”)

Bouleros is silent on processing a media identifier correspondingly by the agent equipment and then forwarding (**Note that the applicant did not adequately define 'media identifier'; therefore as it pertains to this office action the examiner understands 'media identifier' to mean 'transaction identifier'.**)

However, Young, in paragraph 67-69, discloses the steps of steering all incoming packets (including media and non – media) and assigning a new transaction id. The step is carried out by the "Multimedia Access Network Device" which comprises a gateway as well as a gateway controller.)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of Bouleros by steering all incoming packets (including media and non – media) and assigning a new transaction id. This modification would benefit system of Bouleros by providing another means of establishing endpoint identifiers which aids in reliable signaling.

As per claim 2, the combination of Bouleros and Young teach **the method of claim 1**. Furthermore, the combination of Bouleros and Young teach the method for realizing signaling agent based on a media gateway control protocol of claim 1, wherein each of all media gateways under control of same media gateway controller has different domain name (In Paragraph 64, Young discloses where the ‘MAND’ which comprises the functions of a ‘Media Gateway Controller’ keeps a database of each endpoint ID associated with a gateway. Note that Young states, in Paragraph 152, that an Endpoint ID is a "fully qualified unique domain name".)

each endpoint identifier includes domain name information of a media gateway, and the media gateway controller distinguishes media gateways according to their domain names in the endpoint identifiers (In paragraph 96, Young discloses where the ‘Multimedia Access Network Device’ can act as a DHCP server used to keep track of and distinguish between all domain names on the network.).

The examiner provides the same rationale provided for claim 1 as the motivation for modifying the system of Bouleros by the system of Young. As stated in claim 1, the rationale to modify the system of Bouleros by the system of Young is the added benefit of having a more reliable signaling between network devices.

As per claim 3, the combination of Bouleros and Young teach **the method of claim 1**. Furthermore, the combination of Bouleros and Young teach the method for realizing signaling agent based on a media gateway control protocol of claim 1, wherein the step of requesting for registering to the media gateway controller from a media gateway further comprises (In Fig. 7, Young discloses the details of a media device requesting to register with the Multimedia Access Network Device, which comprises a call agent otherwise known as a ‘Media Gateway Controller’. The media device is registered to the Media Gateway Controller by the use of an Application Layer Gateway.):

 sending a request message for registering to the media gateway controller from the media gateway (Young discloses in figure 7 the process of registering to the gateway controller. In order to register, an RSIP message is sent to request registration.),

 and recording message identifier of the media gateway received by the agent equipment to generate a piece of information about the media gateway (Young discloses in figure 7 as well

as paragraph 64, how the ‘Application Layer Gateway’ (note that this is the media gateway) keeps a database of all Endpoint identifiers who register with the gateway controller);

assigning by the agent equipment a new transaction number to the request message for registering to replace original transaction number in the request message for registering (In figure 7 and in paragraph 65, Young discloses the steps that succeed the request for registration. In the succeeding step, after requesting for registration and recording endpoint identifiers, the call agent assigns a new transaction ID to the request message.),

recording the media gateway sending the request, and then forwarding the request message for registering to the media gateway controller (In Paragraph 64, Young discloses where the ‘Multimedia Access Network Device’ keeps a database map of Endpoint ID of the media gateways that registers with the MAND.)

registering the media gateway successfully, and then sending a response message for registering to the media gateway from the media gateway controller (In Paragraph 75, Young discloses that The ‘Multimedia Access Network Device’ is able to support MGCP signaling. MGCP signaling comprises several commands for monitoring communication, one of which is NTFY which is used to generate responses to request messages.);

The combination of Bouleros and Young is silent on determining the media gateway by the agent equipment according to the new transaction number in the response message for registering, replacing the new transaction number with the original transaction number, and then forwarding the response message for registering to corresponding media gateway.

However, The Media Gateway Control Protocol (RFC2705 ‘Media Gateway Control Protocol Version 1.0’ published October of 1999) specifies (pages 57-70) that “MGCP uses a transaction identifier to correlate commands and responses. A gateway supports two separate

transaction identifier: a transaction identifier name space for sending transactions, and a transaction identifier name space for receiving transactions. At a minimum, transaction identifiers for commands sent to a given gateway MUST be unique for the maximum lifetime of the transactions within the collection of Call Agents that control that gateway.” Note that since the transaction identifiers for MGCP signaling are unique for a given gateway, thus all gateways may be appropriately identified according to the transaction number assigned. Moreover, all gateways support a command and response transaction identifier that are assigned for requesting and responding to appropriate endpoints

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of Bouleros in view of Young by finding corresponding gateways according to transaction numbers, replacing the new transaction number with the original transaction number and forwarding the response message to the corresponding media gateway. This modification would benefit the combination of Bouleros and Young by providing a means for reliable signaling in command and response messages. Furthermore, the examiner provides the same rationale provided for claim 1 as the motivation for modifying the system of Bouleros by the system of Young. As stated in the rejection of claims 1 and 2, the rationale to modify the system of Bouleros by the system of Young is the added benefit of having a more reliable signaling between network devices.

As per claim 4, the combination of Bouleros and Young teach **the method of claim 1**. Furthermore, the combination of Bouleros and Young teach the method for realizing signaling agent based on a media gateway control protocol of claim 1, wherein the step of replacing a transaction number by the agent equipment further comprises (In paragraph 69, Young discloses

how the 'Application Layer Gateway' assigns a new transaction Id for incoming request messages):

for each of request messages sent from the media gateway to the media gateway controller, assigning a new transaction number for a request message by the agent equipment, and recording the media gateway sending the request message (In paragraph 71 and 72, Young discloses how the gateway controller keeps a track of all transaction id's assigned by the controller as well as a record of all the default gateways sending requests. In paragraph 69, Young discloses how the 'Application Layer Gateway' assigns a new transaction Id for incoming request messages.);

for each of request messages sent from the media gateway controller to a media gateway, sending the request message to corresponding media gateway by the agent equipment according to domain name in endpoint identifier (In Paragraph 75, Young discloses that The 'Multimedia Access Network Device' is able to support MGCP signaling. MGCP signaling comprises several commands for monitoring communication, one of which is NTFY which is used to generate responses to request messages. Note that NTFY response messages use the source address in the header of the original request message as a means to identify the endpoint device to which the response will be sent to. Also in Paragraph 64, Young discloses where the 'Multimedia Access Network Device' keeps a database map of Endpoint ID of the media gateways that registers with the MAND.)

after receiving on the agent equipment a response message for the request message sent by the media gateway controller (In Paragraph 75, Young discloses that The 'Multimedia Access Network Device' is able to support MGCP signaling. MGCP signaling comprises several

commands for monitoring communication, one of which is NTFY which is used to generate responses to request messages.),

The combination of Bouleros and Young is silent on the claim limitation finding a corresponding media gateway according to a new transaction number assigned replacing the new transaction number in the response message with original transaction number, and then forwarding the response message to the corresponding media gateway;

However, The Media Gateway Control Protocol (RFC2705 ‘Media Gateway Control Protocol Version 1.0’ published October of 1999) specifies (pages 57-70) that “MGCP uses a transaction identifier to correlate commands and responses. A gateway supports two separate transaction identifier: a transaction identifier name space for sending transactions, and a transaction identifier name space for receiving transactions. At a minimum, transaction identifiers for commands sent to a given gateway MUST be unique for the maximum lifetime of the transactions within the collection of Call Agents that control that gateway.” Note that since the transaction identifiers for MGCP signaling are unique for a given gateway, thus all gateways may be appropriately identified according to the transaction number assigned. Moreover, all gateways support a command and response transaction identifier that are assigned for requesting and responding to appropriate endpoints

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of Bouleros in view of Young by finding corresponding gateways according to transaction numbers, replacing the new transaction number with the original transaction number and forwarding the response message to the corresponding media gateway. This modification would benefit the combination of Bouleros and Young by providing a means for reliable signaling in command and response messages. Furthermore, the examiner

provides the same rationale provided for claim 1 as the motivation for modifying the system of Bouleros by the system of Young. As stated in the rejection of claims 1 and 2, the rationale to modify the system of Bouleros by the system of Young is the added benefit of having a more reliable signaling between network devices.

As per claim 5, the combination of Bouleros and Young teach **the method of claim 1**. furthermore, the combination of Bouleros and Young teaches the method for realizing signaling agent based on a media gateway control protocol of claim 1, wherein the step of processing a MGCP/MEGACO signaling that is related to media by the agent equipment further comprises (In Paragraph 75, Young discloses MGCP and SIP signaling for opening up and monitoring communications for RTP streams):

creating or modifying a corresponding media forwarding port and a forwarding table on the agent equipment after receiving a signaling for establishing or modifying a connection sent to a media gateway from the media gateway controller (Paragraphs 75-80 disclose the steps of creating and modifying ports for communicating real-time media as well as a database that maps all relevant addresses for forwarding real-time media packets.),

replacing relevant information on media in the signaling with information on corresponding network address of the media forwarding port on the agent equipment, and then forwarding the signaling to the media gateway (Paragraph 75, discloses how the ‘Multimedia Access Network Device’ replaces necessary information pertaining to ports and addresses, in order to open up connections for real-time media streams);

if the signaling is a signaling for creating a connection, further recording on the agent equipment an endpoint identifier of the connection (Paragraphs 77-79 disclose the steps of

recording a map of all relevant addresses in the processes of creating a port to communicate real-time media),

modifying the forwarding table of a corresponding media forwarding port on the agent equipment according to a response signaling when the media gateway sends the media gateway controller the response signaling related to media (In Paragraph 80, Young discloses how the database which maps all relevant addressing information is maintained, monitored and revised in the process of receiving and transmitting RTP packets.);

replacing media information in the response signaling with information on network address of corresponding media port on the agent equipment, and then sending to the media gateway controller (Paragraph 75, discloses how the 'Multimedia Access Network Device' replaces necessary information pertaining to ports and addresses in order to open up connections for real-time media streams.);

sending a signaling for releasing the connection to the media gateway from the media gateway controller after calling finishes (In Paragraph 75, Young discloses that The 'Multimedia Access Network Device' is able to support MGCP signaling. MGCP signaling comprises several commands for monitoring communication, one of which is the DLCX command which is used to terminate a connection.),

releasing the corresponding media forwarding port on the agent equipment according to the endpoint identifier, and then forwarding the signaling to the media gateway (In Paragraph 75, Young discloses that The 'Multimedia Access Network Device' is able to support MGCP signaling. MGCP signaling comprises several commands for monitoring communication, one of which is DLCX which is used to terminate a connection of a specified endpoint.).

The examiner provides the same rationale provided in the rejection of claim 1 as the motivation for modifying the system of Bouleros by the system of Young. As stated in claim 1 and 2, the rationale to modify the system of Bouleros by the system of Young is the added benefit of having a more reliable signaling between network devices.

Conclusion

6. Prior arts made of record, not relied upon:

US 20030233471 A1 to Mitchell et al. discloses establishing a call in a packet-based communications network.

US 7146410 B1 to Akman; Arda discloses a System and method for executing control protocols among nodes in separate IP networks

US 7406043 B1 to Chu et al. discloses a Method for providing voice-over-IP service

US 20070217407 A1 to Yuan et al. discloses a Method and System for Implementing Traversal Through Network Address Translation

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yosief Berhane whose telephone number is (571) 274-7164. The examiner can normally be reached at 7:30-5:00 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Taghi T. Arani can be reached at (571) 272-3787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/YB/

/Taghi T. Arani/

Supervisory Patent Examiner, Art Unit 4144